

REMARKS

Claims 1 and 3-7 are pending in this application and stand rejected. Applicants seek to amend claim 1. Claim 1 is independent.

Support for the revision to claim 1 can be found throughout the disclosure. By way of non-limiting example, it will be appreciated that such support is present in the specification teaches at pages 22-25, and in Figs. 9B-11.

The Rejections Under 35 U.S.C. § 103

Claims 1, 3 and 5-7 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over what the Office Action referred to as Applicants' admitted prior art ("AAPA") in view of U.S. patent no. 4,506,577 to Shinomiya, U.S. patent no. 5,761,980 to Irma et al., and U.S. patent no. 5,325,754 to Pohl. Applicants respectfully traverse this rejection, and submit that one skilled in the art would not be led to the claimed invention for at least the following reasons.

The claimed invention patentably distinguishes over the combination of cited references because none of those references suggests the movement path of the slitter/scorer as described in claim 1. In that movement path, the slitter-scoring moves also two diagonal path portions (the diagonal path portions are arranged on intersecting lines) which form part of a trapezoidal region. By way of example only and not limitation, this can be seen in application Figs. 9B-11:

FIG.9B

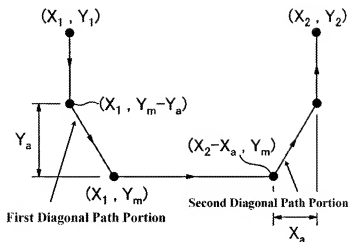


FIG.10

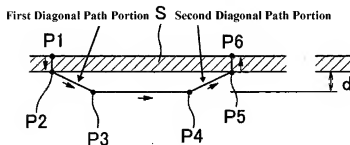
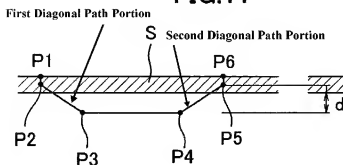


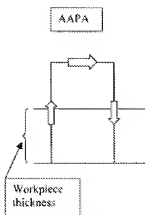
FIG.11



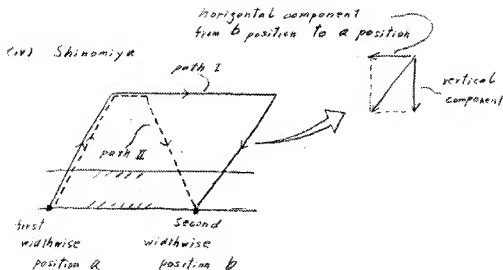
In this regard, claim 1 provides for such a path. The claim involves a method for controlling a slitter-scoring apparatus of claim 1 involves supplying a paperboard sheet along a feed line and moving a slitter/scorer including at least one of a slitter and a scorer in at least one

of a vertical direction by a mechanism for vertically moving the slitter/scorer and a widthwise direction by a mechanism for horizontally moving the slitter/scorer to an operative level where a surface of the paperboard sheet is processed thereby. Each mechanism for vertically moving the slitter/scorer and the mechanism for horizontally moving the slitter/scorer includes a servo motor. When the slitter/scorer moves from a first widthwise position of a first operative position to a second widthwise position of a second operative position, the slitter/scorer is caused to start moving only in the vertical direction while a level of at least one of the slitter/scorer is between the bottom and top surfaces of the paperboard sheet, and then the slitter/scorer is moved simultaneously in the vertical direction and in a cross machine direction oriented from the first to the second widthwise position in part along a first diagonal path portion disposed on a first line and thereafter the slitter/scorer moves in part along a second diagonal path portion disposed on a second line that intersects the first line so that the slitter/scorer moves diagonally toward the second cross machine position before the slitter/scorer again moves only in the vertical direction and after the slitter/scorer initially moved only in the vertical direction.

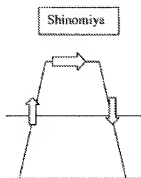
The Office **admits** Shinomiya only teaches vertical motion separate from horizontal motion, and not diagonal motion (Office Action, p.2). The previous Office Action dated August 7, 2006 included at page 5 a sketch contending that the AAPA taught only that the path container purely vertical and horizontal components; no diagonal portions were shown, much less diagonal portions arranged on intersecting lines, as claimed:



Although the Office Action looks to Shinomiya to remedy the deficiencies of the AAPA with regard to diagonal motion, the motion taught by Shinomiya still is not suggestive of the motion of the claimed invention. Shinomiya's cutter moves in a different path that does not suggest this invention's first and second diagonal path portions lying on intersecting lines - Shinomiya's cutter moves along a parallelogram, meaning the cutter moves on diagonal paths that are **parallel** to each other, as shown in path I below:

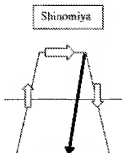


Insofar as the previous Office Action of August 7, 2006, contained the following sketch of Shinomiya's cutter motion, that sketch is not accurate.



In particular, Shinomiya's cutter does not move in direction shown in the righthand-most leg. Those skilled in the art would understand from Shinomiya at col. 3, line 61, through col. 4, line 6, that because the upper rotary cutter 3 is said to come nearer to the lower rotary cutter 4, and as shown in Figs. 1 and 3 during operation those cutters are arranged in side-by-side partially overlapping orientation, the motion depicted above is not possible because such motion would cause the upper cutter to move outward and away from the lower cutter (in Figs. 1 and 3 of Shinomiya the upper cutter 3 lies somewhat to the right of the lower cutter 4).

In other words, in Shinomiya the last leg of the motion path would have the upper cutter 3 moving downward and leftward toward the lower cutter 3, as shown below:



Even assuming that Ima teaches horizontal motion through use of a servomotor, as the Office Action contends, at col. 8, lines 25-29, Ima states that the blades 23 and supporting disks 50 are traversed horizontally while they are in the slitting position. This clearly does not suggest the motion of the slitter/scorer that is claimed. In particular, Ima does not suggest at least the aspects of this invention involving motion of the slitter/scorer along first and second diagonal path portions lying on intersecting lines, as shown above and claimed.

Likewise, Pohl only is cited as suggesting using a servomotor to move a slitter/scorer to control a moving distance. Pohl differs significantly from the claimed invention and comes from a different field of endeavor because Pohl is directed to a device that cuts a profile strip of material into lengths as it emerges from a forming station (col. 4, lines 32-43) (that is, Pohl teaches transverse cuts across the direction of workpiece movement). Pohl in no way suggests the two diagonal paths of the claimed invention, and so suffers from the same shortcomings as the other cited art.

Accordingly, even if the AAPA, Shinomiya, Ima and Pohl are combined, the travel path of the slitter/scorer along the intersecting diagonal paths is not suggested.

Consequently, claim 1, as well as claims 3 and 5-7, which depend therefrom, avoid the cited art. Favorable reconsideration and withdrawal of this rejection are respectfully requested.

Claim 4 has been rejected under 35 U.S.C. § 103(a) as being unpatentable over the AAPA in view of Shinomiya, Ima and Pohl, as applied above, and further in view of Japanese Laid-Open Patent Appln. No. 8-11245. Applicants respectfully traverse this rejection, and submit the following arguments in support thereof.

Claim 4 depends from, and so incorporates by reference all the features of claim 1, including those features just shown to avoid the AAPA, Shinomiya, Ima and Pohl. Claim 4 therefore patentably distinguishes over those references at least for same reasons as claim 1, which reasons are incorporated by reference herein.

As for JP 8-11245, the Office Action cites that reference as teaching the slitter is moved laterally while it is in paperboard. JP 8-11245 fails, however, to remedy the above-noted deficiencies of the AAPA, Shinomiya, Ima and Pohl, at least with regard to the movement of the slitter/scorer along diagonal path portions that lie on intersecting lines. Accordingly, the claimed invention avoids the combination of the AAPA, Shinomiya, Ima, Pohl and JP 8-11245 for the same reasons it avoids the AAPA, Shinomiya, Ima and Pohl.

Again, favorable reconsideration and withdrawal of this rejection are respectfully requested.

CONCLUSION

Applicants respectfully submit that all outstanding rejections have been addressed and are now either overcome or moot. Applicants further submit that all claims pending in this application are patentable over the prior art. Accordingly, favorable consideration and prompt allowance of this application are respectfully requested.

Other than the extension fee authorized in the accompanying Petition for Extension of Time, no fees are believed to be due in connection with the filing of this paper. Nevertheless, should the Commissioner deem any additional fee(s) to be now or hereafter due in this application, authority is given to charge all such fees to Deposit Account No. 19-4709.

In the event that there are any questions, or should additional information be required, please contact Applicants' attorney at the number listed below.

Respectfully submitted,

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